

November 23, 2015
MGA Project No: AQM001

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ENVIRONMENTAL PROTECTION

Nevada Division of Environmental Protection
Bureau of Air Pollution Control, Class II Permitting Branch
901 South Stewart Street, Suite 4001
Carson City, NV 89701

ATTN: JEFFERY KINDER
BUREAU CHIEF, AIR POLLUTION CONTROL

RE: NEW CLASS II AIR QUALITY OPERATING PERMIT APPLICATION,
AQUA METALS, 2500 PERU DRIVE, MCCARRAN, NEVADA, 89434

Dear Mr. Kinder:

On behalf of Aqua Metals, Inc (AMI), McGinley and Associates, Inc. (MGA) has prepared this new Class II Air Quality Operating Permit application for AMI's used lead acid battery (ULAB) recycling facility at the above referenced location.

The AMI facility is "first of its kind" ULAB recycling facility where a proprietary and patent pending lead recovery process will be utilized. The novel process does not utilize any smelting equipment which is currently the primary technology utilized for the recovery of lead from ULABs. Smelting is the process of recovering the lead present in LABs by heating the lead alloys/lead oxides and nonmetallic constituents obtained from the ULABs. Smelting produces several air pollutants including sulfur dioxide, particulate matter, and particulate lead emissions as well as requiring substantial heat input which traditionally is produced by the combustion of natural gas. The novel AMI technique, which as mentioned replaces the need for smelting, produces only negligible quantities of air pollutants and a higher quality lead product.

The information and data provided in this permit application represents the best information available at the time the application was prepared; however, some information/data is preliminary and is subject to change. New or supplementary information/data pertinent to this air permit application will be submitted to the Nevada Division of Environmental Protection (NDEP) when and if it becomes available.

Pursuant to the NDEP's October 7, 2015 letter approving MGA's and AMI's request for confidentiality, two documents are being submitted. The first document is the permit application which can be made publically available as appropriate and required. The second document is a letter divulging the identity of the chemical in which confidentiality was granted for. This letter, which is designated as confidential, is provided to facilitate the NDEP's internal application review and is not to be made publically available. MGA and AMI request that no digital copies or additional hard copies of the confidential letter be created as a measure to control dissemination of the information. Included with this submittal is a CD with a digital copy of the non-confidential permit application.

The estimated facility wide Potential to Emit (PTE) for the proposed facility is provided in Table 1:

Table 1: Facility Wide Estimated PTE	
Pollutant	Maximum Estimated PTE (tons per year)
PM	5.02
PM-10	5.02
PM-2.5	5.02
SO ₂	0.061
NO _x	7.10
CO	5.77
VOC	0.40
Lead	1.11
Total HAP	1.23
CO ₂ e	13,054

The AMI facility has been reviewed for applicability and compliance with the requirements promulgated in the Code of Federal Regulations (CFR) and MGA has determined none of the CFR regulations apply to the proposed facility. An evaluation summary of the potentially applicable regulations is provided below:

40 CFR Part 51 Subpart I: Prevention of Significant Deterioration (PSD)

40 CFR Part 51 Subpart I is applicable to facilities defined as a major source. For PSD purposes the Environmental Protection Agency defines a major source as a facility that emits 100 tpy or more of any priority pollutant which is one of the 28 specified source categories or 250 tons per year (tpy) or more for all other facilities. As indicated in Table 1, the facility does not have a PTE of more than 100 tpy of any pollutant; as such, 40 CFR Part 51 Subpart I does not apply.

40 CFR Part 60 Subpart KK: Standards of Performance for Lead-Acid Battery Manufacturing Plants

40 CFR Part 60 Subpart KK is applicable to facilities that are capable of producing lead-acid batteries. The AMI facility will only recycle lead-acid batteries and will not manufacture them; as such, 40 CFR Part 60 Subpart KK does not apply.

40 CFR Part 60 Subpart L and R: Standards of Performance for Secondary (Subpart L) and Primary (Subpart R) Lead Smelters

40 CFR Part 60 Subparts L and R apply to facilities that conduct secondary or primary lead smelting operations. As discussed above, no smelting of any kind is to be utilized at AMI's facility; as such, 40 CFR Part 60 Subpart L and R does not apply.

40 CFR Part 63 Subpart X and TTT: National Emission Standards for Hazardous Air Pollutants From Secondary (Subpart X) and Primary (Subpart TTT) Lead Smelting

40 CFR Part 63 Subpart X and TTT applies to facilities that conduct secondary or primary lead smelting operations. As discussed above, no smelting of any kind is to be utilized at AMI's facility; as such, 40 CFR Part 63 Subparts X and TTT do not apply.

40 CFR Part 63 Subpart PTTTTT: National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources

40 CFR Part 63 Subpart PTTTTT is applicable to facilities that are capable of producing lead-acid batteries. The AMI facility will only recycle lead acid batteries and will not manufacture them; as such, 40 CFR Part 63 Subpart PTTTTT does not apply.

40 CFR Part 63 Subpart TTT: National Emission Standards for Hazardous Air Pollutants From Secondary Lead Smelting

40 CFR Part 60 Subpart KK is applicable to facilities that are capable producing batteries containing 6.5 tons of lead in a 24 hour period. The AMI facility will only recycle lead acid batteries and will not manufacture them; as such, 40 CFR Part 60 Subpart KK does not apply.

40 CFR Part 98: Mandatory Reporting of Greenhouse Gases (GHGs)

40 CFR Part 98 applies to facilities in 24 listed categories or any facility that emits more than 25,000 metric tons per year or more of carbon dioxide equivalent (CO₂e). The AMI facility does not fall into one of the listed categories and as indicated in Table 1, does not emit more than 25,000 metric tons of CO₂e; therefore, 40 CFR Part 98 does not apply.

LIMITATIONS

The information presented herein is based strictly on information provided to MGA. MGA makes no warranties or guarantees as to the accuracy or completeness of information provided or compiled by others. It should be recognized that definition and evaluation of environmental emission conditions is an inexact science. Judgments and opinions leading to conclusions and calculations are generally made with an incomplete knowledge of the conditions present. More extensive studies, including additional performance testing, can tend to reduce the inherent uncertainties associated with such conclusions and calculations. Additional information not found or available to MGA at the time of preparing this permit application may result in a modification to the conclusions and calculations contained herein.

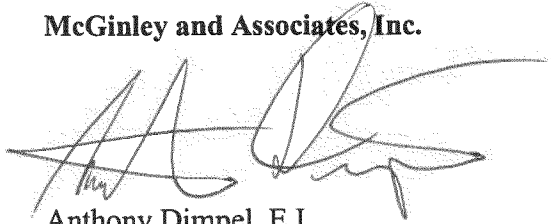
The services performed by MGA have been conducted in a manner consistent with the level of care ordinarily exercised by members of our profession currently practicing under similar conditions. No other warranty, expressed or implied, is made. The use of the word "certify" in this document constitutes an expression of professional opinion regarding those facts or findings which are the subject of the certification and does not constitute a warranty or guarantee, either expressed or implied.

CLOSING

Should you have any questions regarding the information provided herein please contact Anthony Dimpel of McGinley and Associates at (775) 829-2245.

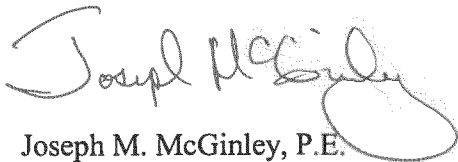
Respectfully submitted,

McGinley and Associates, Inc.



Anthony Dimpel, E.I.
Project Manager

Reviewed By:



Joseph M. McGinley, P.E.
Principal